

AMENDMENT AND RESPONSE**PAGE 2**

Serial No.: 10/056,270

Filing Date: 1/24/2002

Attorney Docket No. 100.323US01

Title: ELECTRICAL NOISE PROTECTION

REMARKS

The Office Action mailed on February 21, 2006 as well as the cited art has been reviewed. Claims 1-6, 8-17, and 19-26 are pending in this application.

Summary of Examiner Interview

The Applicant's representatives, David Fogg (Registration Number 35,138) and Jay Wahlquist (Registration Number 55,705) thank Examiner Dinh for the opportunity to discuss aspects of this case in a personal interview on May 10, 2006.

The pending claims were discussed with respect to the Examiner's rejection of these claims under 35 U.S.C. §103(a). During the interview, the Applicant's representatives asserted that one of skill in the art would not be motivated to make the combinations suggested by the Examiner.

The Applicant's representatives believe that the substance and scope of the personal interview of May 10, 2006 is accurately captured in the summary above and the arguments below.

Rejections Under 35 U.S.C. § 103

Claims 1-4, 6, and 11-13 were rejected under 35 USC § 103(a) as being unpatentable over Akiba et al. (U.S. Patent No. 6,353,540) in view of Theus (U.S. Patent No. 4,904,968). Applicant respectfully traverses this rejection.

Claim 1 is directed to an electronic device. The electronic device comprises a circuit board; a first circuit disposed on a first side of the circuit board, the first circuit connected to a first ground plane of the circuit board; a second circuit disposed on a second side of the circuit board, wherein the second side is opposite the first side, the second circuit connected to a second ground plane of the circuit board; wherein the first and second ground planes respectively lie in different planes of the circuit board and are electrically interconnected by a conductive trace disposed within the circuit board; and wherein the second circuit operates at current levels substantially lower than the first circuit.

AMENDMENT AND RESPONSE**PAGE 3**

Serial No.: 10/056,270

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The Office Action asserted that Akiba discloses "a first circuit (26, column 18, lines 50-51) disposed on a first side (a top side) . . . a second circuit (28, column 18 line 61) disposed on a second side (a bottom side)." With respect to the language in claim 1 reciting "wherein the first and second ground planes respectively lie in different planes of the circuit board and are electrically interconnected by a conductive trace disposed within the circuit board", the Office Action took the position that ground planes 15 and 21 of Akiba are electrically connected through a resistor Rc as shown in FIG. 34.

The Office Action noted that Akiba fails to disclose the second circuit operating at current levels substantially lower than the first circuit. However, the Office Action went on to assert that "it would have been obvious to one of skill in the art at the time the invention was made to use the circuit board having the second circuit operating at current levels substantially lower than the first circuit as taught by Theus employed in the device of Akiba et al. in order to provide a radiation [sic] of the unnecessary electromagnetic wave due to the voltage variation between a power source and ground."

Is it respectfully submitted that the resistor Rc shown in FIG. 34 of Akiba does not comprise "a conductive trace disposed within the circuit board" as set forth in claim 1. Nowhere does Akiba teach or suggest that the resistor Rc of FIG. 34 is a trace. Moreover, Akiba is silent as to having the resistor Rc "disposed within the circuit board" as recited in claim 1 of the present application. It is respectfully submitted that Akiba neither teaches nor suggest this. *See, e.g.,* Akiba, column 18, lines 43-48 ("The matching termination resistor Rc 25 (25-1, 25-2) is connected to the end of the parallel plate line (two lines for the rectangular shape) formed by the ground layer G115 and the ground layer G321 to absorb the potential fluctuation (resonance) of the power layer V116 and the power layer V220.") (emphasis added).

Furthermore, it is respectfully submitted that one of ordinary skill in the art would not be motivated to make the proposed combination for the reason set forth in the Office Action. The motivation to combine set forth in the Office Action is "to provide a radiation [sic] of the unnecessary electromagnetic wave due to the voltage variation between a power source and ground." Applicant assumes that the Office Action meant to say "to provide a reduction of the unnecessary electromagnetic wave ..."

AMENDMENT AND RESPONSE**PAGE 4**

Serial No.: 10/056,270

Filing Date: 1/24/2002

Attorney Docket No. 100.323US01

Title: ELECTRICAL NOISE PROTECTION

The Office Action contains no explanation as how the proposed combination would provide any reduction in unnecessary electromagnetic waves above and beyond simply Akiba by itself (that is, Akiba without the proposed modification). Indeed, Theus clearly indicates that I/O devices operating at current levels substantially higher than the current levels at which logic devices operate is a problematic feature (according to Theus it leads to signal distortion and crosstalk). The proposed combination would add this problematic feature of Theus (I/O devices operating at current levels substantially higher than the logic devices) to Akiba for the stated reason of reducing unnecessary electromagnetic waves. It is respectfully submitted that one of ordinary skill in the art, desiring to reduce unnecessary electromagnetic waves, would simply use Akiba without the proposed modification since the proposed combination, according to Theus, would only add a new source of signal distortion and crosstalk without otherwise reducing unnecessary electromagnetic waves (the Office Action contains no explanation as to how the cross-talk reduction features of Theus (i) would be operable in the proposed combination or (ii) would result in a reduction of unnecessary electromagnetic waves). It is respectfully submitted that the proposed combination is simply the result of applying of impermissible hindsight.

Claims 2-4, 6 and 11-13 depend from claim 1 and, thus, are allowable for at least the reasons stated above with respect to claim 1. Applicant, therefore, requests that the rejections be withdrawn.

Claims 5, 16-17 and 22-24 were rejected under 35 USC § 103(a) as being unpatentable over Akiba et al. (U.S. Patent No. 6,353,540) in view of Theus (U.S. Patent No. 4,904,968), and further in view of Hirashiro et al. (JP 40609680A). Applicant respectfully traverses this rejection.

Claim 5 depends from claim 1. Therefore, the arguments set forth above with respect to claim 1 apply to this claim as well. Accordingly, it is respectfully requested that the rejection of claim 5 be withdrawn.

AMENDMENT AND RESPONSE**PAGE 5**

Serial No.: 10/056,270

Filing Date: 1/24/2002

Attorney Docket No. 100.323US01

Title: ELECTRICAL NOISE PROTECTION

It is respectfully submitted that the arguments set forth above with respect to claim 1 apply to claim 16 as well. Accordingly, it is respectfully requested that the rejection of claim 16 be withdrawn.

Claim 17 and 22-24 depend from claim 16. Therefore, the arguments set forth above with respect to claim 16 apply to these claims as well. Accordingly, it is respectfully requested that the rejection of these claims be withdrawn.

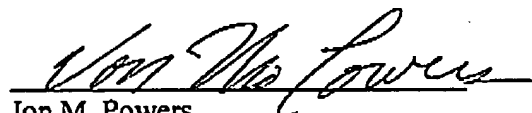
CONCLUSION

Applicant respectfully submits that claims 1-6, 11-13, 16, 17, and 22-24 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at 612-455-1681.

Respectfully submitted,

Date: 6/21/2006


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